

ANNEX 1

SP Energy Networks Response: Future System Operator Consultation

1. Do you agree that net zero will create the need for new technical roles in the electricity and gas systems, and require a new approach to energy system governance?

To meet the UK's various Net Zero targets, a significant number of new technical roles in the electricity system will be required. These technical roles include data-driven planning, system design, consenting and tendering. It is vital that each role is delivered by the body best placed to deliver it, in order to avoid any delays to Net Zero or duplication of resources and/or costs that will ultimately be passed on to consumers. As part of this exercise, we agree with the need to review system governance in light of Net Zero ambitions.

2. Do you agree that the establishment of a Future System Operator is needed to fulfil the kinds of technical roles needed to drive net zero?

We consider that the creation of the Future System Operator is appropriate, given the Net Zero challenges we face. However, we do not believe it is appropriate that the FSO should fulfil all of the technical roles needed to drive Net Zero.

It is vital that the FSO is seen as one key player in a wider energy system, working in collaboration with all industry stakeholders, and that BEIS and Ofgem recognise where other bodies are more appropriately placed to deliver certain roles. BEIS and Ofgem must ensure that each technical role is delivered by the body best placed to do so, be that the FSO, TOs, DNOs or another industry body. Where the FSO is considered best placed to undertake a role, BEIS and Ofgem must ensure the FSO has clear responsibilities within that role. At this moment, there is not enough clarity and detail on the proposed roles and responsibilities for the FSO. We expand on this concern in our response to questions 11 and 12 (below).

3. Do you agree that a Future System Operator should have roles in both the electricity and gas systems?

Yes, we would expect the FSO to have roles in both electricity and gas systems. This is an opportunity for the FSO to support the coordination of whole systems activities and thinking across sectors. Whole system planning and thinking will be key to unlocking Net Zero opportunities.

4. Do you agree that a Future System Operator should be entirely separate from National Grid plc?

We have no comments to make on the separation of the FSO from the National Grid Group.

5. What issues are there with existing institutional arrangements in the UK energy system in relation to system-wide decision-making and planning?

Whole systems thinking and planning across the energy industry and beyond will be critical to delivering Net Zero. However, much of the energy system still operates in silos,

without communication or coordination with wider system partners and stakeholders. There is certainly scope for developing whole systems activities and more proactive coordination to deliver Net Zero quicker, and at lower cost to consumers.

A good example of where a more collaborative approach has been adopted is the UK Government's 40GW offshore wind target by 2030, which requires significant offshore and onshore network infrastructure solutions and reinforcement, coordinated and developed in a timely way. To manage the scale of investment needed, existing processes needed to be adapted. The Offshore Transmission Network Review (OTNR) seeks to address this by setting out the onshore and offshore electricity network infrastructure requirements through a Holistic Network Design (HND), which we support. However, there is also a need for wider regulatory and planning processes to be concurrently reviewed and aligned with the OTNR's work and pressing delivery timelines, to deliver shared objectives. For example, the HND must be clear and consistent with the outcomes of future Network Options Assessments (NOA) to provide certainty and confidence in the development, consenting and deliverability of key strategic infrastructure. The HND should also directly contribute to the network needs case used to justify the investment need to Ofgem, and the needs case to justify investment to the planning authorities with the support of Government National Policy Statements and National Planning Frameworks.

The OTNR work is evidence that system-wide decision making and planning requires cooperation and collaboration both within and beyond the energy system. No single industry body has the skills and experience required to develop both onshore and offshore network reinforcement options that will be sufficiently robust. To ensure that optimal decisions are made, it is crucial that the bodies best placed to deliver decision making and network planning functions act in collaboration. Looking to the future, a more strategic and collaborative approach to planning energy infrastructure is required. In Scotland, this approach is already happening organically through the formation of the Scottish Government's Major Energy Projects Group, the ScotWind Roundtable and strategic planning from Marine Scotland's sectoral plan (which then informed Crown Estate Scotland's ScotWind leasing sites). The ScotWind Roundtable has brought these elements together for the purpose of delivering ScotWind by 2030.¹ This is a similar approach to the Electricity Networks Strategy Group, co-chaired by DECC and Ofgem, which met in 2009 to address the long-term challenges of connecting renewable generation.²

To achieve Net Zero, we believe policy makers, the FSO and networks companies must work together to create greater certainty on long term strategic planning. This approach will best utilise the existing experience within the industry, removing the need to develop new capabilities within a single central planner, and the associated delays. Therefore, we would have concerns with the high-level network planning role being taken on solely by the FSO. Firstly, we do not believe that this would represent the collaborative approach needed to meet Net Zero. Secondly, the FSO does not have the experience or skills to deal with the remit of network planning responsibilities, which has been reserved to a large extent to TOs, who have unrivalled expertise in developing and maintaining an economic, efficient and coordinated network across GB.

¹ ScotWind Roundtable includes Crown Estate Scotland, Marine Scotland, Scottish Government, National Grid ESO, SP Energy Networks and SSENT.

² The Electricity Networks Strategy Group (ENSG) was co-chaired by the Department of Energy and Climate Change (DECC) and Ofgem, and membership included electricity and gas networks, developers, devolved administrations and sustainability groups.

6. What examples/case studies are you aware of where net zero delivery in one part of the energy system did not adequately account for cross-system impacts or costs?

There are many opportunities within the energy system to deliver benefits across the total system, and that requires investment decisions and business practices to take into account their cross-system impacts on different organisations or consumers. Many of the areas where Net Zero delivery is not currently accounting for cross-system impacts or costs will be currently unknown, which is why embedding whole systems thinking and decision making into all organisations in the energy system is so critical to delivering Net Zero quickly and efficiently.

SPEN is committing to its Whole Systems Strategy for RIIO-ED2. Our mission is to unlock the full value of Whole System thinking, by collaborating not only with other electricity companies, but also key stakeholders including gas and water networks, innovators, network users, non-regulated companies and local communities to ensure efficient investment in the electricity network and to achieve optimal outcomes for customers in the transition to Net Zero.

As an example of how a cross-system impact can be identified and optimised to benefit consumers, consider the SO:TO Optimisation Incentive that we developed for RIIO-T2. When network projects require outages, these are agreed with the ESO and then the asset or circuit is taken offline for works to be carried out. An outage on a TO's asset can have significant cost implications for the ESO in the form of increased constraint costs due to reduced network availability. For some outages, TOs are able to construct temporary circuits to increase network availability. This practice can create very significant constraint cost savings for consumers but was not widely taking place due to the lack of a regulatory incentive to carry out the works, which carry an associated cost and risk to the TO. For RIIO-T2, the TOs, ESO and Ofgem worked closely to develop an incentive that creates a framework for valuing these solutions and rewarding TOs for delivering projects in a way that minimises total system costs, rather than minimising transmission costs only. Initiatives such as the RIIO-T2 SO:TO Optimisation Incentive that consider whole systems impacts of proposals are critical to delivering Net Zero at lowest cost to consumers. For more details on the SO:TO Optimisation Incentive, see Ofgem's RIIO-2 Final Determination.³

7. Where should government focus in our efforts to improve systems thinking and coordination across the energy system?

In light of Net Zero ambitions we agree upon the need for a strategic approach to the development of high level network planning (HLNP) which brings together all the relevant skills, experience, and authority for informed, whole system decision making. It is crucial that the bodies best placed to deliver decision making and network planning functions, including policy makers, the FSO and network companies, act in collaboration. A similar collaborative approach includes the collaborative and coordinated process which has been developed to support the ScotWind leasing round, discussed in our response to question 5 (above). This approach will best utilise the existing experience within the industry, removing the need to develop new capabilities within a single central planner, and the associated delays.

³ Ofgem, RIIO-2 Final Determination for Transmission. <https://www.ofgem.gov.uk/publications/riio-2-final-determinations-transmission-and-gas-distribution-network-companies-and-electricity-system-operator>

A key barrier to developing whole systems solutions is the lack of an agreed framework for quantifying whole system benefits. To create trust in the transition to Net Zero, the whole system benefits of proposals need to be quantified in an aligned way across the industry. Multiple approaches to benefit quantification creates confusion and prevents direct comparisons being made between proposals and sectors. Ofgem should engage with the energy industry to consider how the quantification of whole systems benefits can be aligned.

Government should ensure that the bodies best suited to deliver each Net Zero role are responsible for its delivery. The key whole systems principles of collaboration and coordination enable organisations to work together to deliver optimal solutions for consumers, each bringing specific skillsets and experience. The local drivers of decarbonisation mean that, in many instances, the organisations best suited to deliver Net Zero are not centralised bodies, but regional and local bodies with detailed understandings of the local energy system and relationships with their stakeholders. Such roles include detailed network planning and supporting the decarbonisation of heat and transport, both of which will require bespoke support and delivery, driven by the unique decarbonisation challenges each region faces.

8. Do you agree that the FSO should undertake all the existing roles and functions of NGESO? If not, please explain why.

Yes, we agree with the FSO should undertake the existing roles and functions of the ESO.

9. Do you agree there is a case for the FSO to undertake the long-term strategic functions outlined in Option 1? Please elaborate and provide any views on the functions we have outlined in Option 1.

Other parties are better placed to answer this question.

10. Do you agree that there is not currently a case for the FSO to undertake all GSO roles and functions, including real-time gas system operation, as outlined in Option 2? If you do not agree, please explain why.

Other parties are better placed to answer this question

11. Do you have views on the proposal for an advisory role? What organisations do you consider would benefit from the provision of advice by the FSO? Who should bear the costs of providing that advice?

As the system operator, the FSO will have a unique place in the energy system and, in turn, a valuable understanding of the operation of the energy system. Its advice, insight and experience will be a key input into future system and policy decision-making.

However, advice should be sought from those parties best placed and experienced to offer it. It would be short-sighted for such a role to fall to just one party. The FSO will not have the full picture of the energy system; no individual party can. Areas where the FSO is not best placed or experienced to offer advice include: detailed network planning and network engineering solutions that the TOs are responsible for; a full understanding of the local challenges on distribution networks; and asset-related knowledge and experience.

It is imperative that the FSO should be accountable not only to BEIS and Ofgem, but to the devolved administrations too, ensuring it is also supporting the Net Zero ambitions of the Scottish and Welsh Governments.

In our view, the advisory role of the FSO should be as a communicator of system views, working in collaboration with bodies and stakeholders across the energy system to build messaging and advice in the interests of consumers and delivering Net Zero.

12. Do you have any views on the other areas where we are considering new and enhanced roles and functions for the FSO (outlined in section 3.2)?

Below, we have outlined our views on each of the proposed enhanced FSO roles of interest to us as a network operator:

High Level Network Planning – To ensure that optimal decisions are made, it is crucial that the bodies best placed to deliver high-level network planning functions act in collaboration, similar to the OTNR's Central Design Group and associated ScotWind Roundtable, discussed in response to Q5, above. This approach will best utilise the existing experience within the industry, removing the need to develop new capabilities within a single central planner, and the associated delays.

No single industry body has the skills and experience required to develop both onshore and offshore network reinforcement options that will be sufficiently robust. We do not believe the FSO is best placed to undertake increased onshore network planning responsibilities, as this is not expertise which the ESO currently holds. Strengthening the onshore network planning role of the FSO would require an increase to the FSO's skillsets to include, for example, project development, including environmental planning and consenting, and engineering design expertise. It will take time to establish the FSO and build this capability. Embarking on this process will likely introduce additional delays and complexities to the delivery of projects that are crucial to the UK's Net Zero ambitions. This will also result in duplication of resource that is already held within TOs, and we would question where this would offer value to consumers. At a time where the industry is already suffering a skills shortage, we again would question where this would add value to the system or the consumer.

We note that the consultation states that it expects: "network planning functions to be largely advisory, providing analysis and recommendations to allow Ofgem to take decisions approving investment." Any proposals from the FSO should not simply be 'rubber stamped,' by Ofgem. Ofgem must be accountable for its statutory duties and act as a robust safety net to ensure all stakeholders are heard and the optimal pathway adopted, in order to protect the interests of existing and future customers.

Further, if implemented, the consultation notes it is possible in the future that the FSO could take on a stronger role in "electricity network planning, potentially recommending network designs and tendering for and/or contracting with parties to build and operate network assets," which would be a major change to the current regulatory framework. This would introduce very significant uncertainty around the parameters for network owners' current network planning functions. Introducing this level of uncertainty and unpredictability to our core functions will risk creating very significant issues around our ability to attract the required investment to deliver Net Zero.

The proposals will also introduce significant additional complexity into the way the main transmission and distribution systems will be developed, operated and maintained, given that the proposals would mean potentially many additional entities being involved in networks activity.

This is not envisaged under the current, carefully developed regulatory framework and naturally introduces significant additional complexity and risk to system operability. It appears to us that BEIS and Ofgem have not properly considered the full implications that these proposals raise, including very serious questions around the potential impact on present and future consumers, security of supply, safety, and the continued provision of an efficient, co-ordinated and economical electricity network.

The introduction of these new processes and policies, which are likely to result in knock-on delays to infrastructure projects, also puts at risk the timely delivery of critical projects required to achieve government targets. For example, the UK Government's offshore wind targets of 40GW capacity by 2030. SPEN has material reservations as to whether these proposals are in the interests of present and future consumers.

Enhanced Network Planning – We firmly believe that the network planning body role should remain with the TOs. As licensed owners and operators of transmission network assets, TOs already have the expertise, resources and skills to develop projects, which are already subject to the rigour of the NOA process.

The removal of network planning responsibilities will not promote efficiency and economy in electricity networks. The proposals significantly risk undermining the TOs' general duties under Section 9 of the 1989 Act where it is the duty of each licence holder to *"develop and maintain an efficient, co-ordinated and economical system"* of electricity transmission.

Careful consideration is needed of the potential impact of the TOs' and ESO's obligations under the System Operator Transmission Owner Code (STC) and other relevant documents. For example, the TOs have responsibility to "plan, develop, operate and maintain its Transmission System".⁴ This proposal risks adversely impacting the TOs' ability to, amongst other things, plan and develop their own transmission systems.

We do not believe the ESO is best placed to undertake increased onshore network planning responsibilities, as this is not expertise which the ESO currently holds. Strengthening the onshore network planning role of the ESO would require an increase to the ESO's skillsets to include, for example, detailed project development, including environmental planning and consenting, and engineering design expertise. It will take time to build this capability and embarking on this process will likely introduce additional delays and complexities to the delivery of projects that are crucial to the UK's Net Zero ambitions. This will also result in duplication of resource that is already held within TOs, and we would question where this would add value for consumers. At a time where the industry is already suffering a skills shortage in these areas, we again would question where this would add value to the system or the consumer.

The consultation has failed to consider, and therefore has undervalued, the extent of the community engagement and consenting activities in relation to network planning which TOs undertake, which is extremely important to secure positive outcomes for all parties. We have developed good, strong and enduring relationships with a wide range of local

⁴ System Operator Transmission Owner Code, S2.2

stakeholders, from local farmers to the Scottish Government, as part of our network planning responsibilities. An additional party undertaking this role would risk damage to our existing relationships with these stakeholders and would add further complexity to the process, which could slow down the pace of projects.

If the network planning role was carried out by another party, then we believe that there would be efficiency losses. There are numerous occasions where we, using our network planning role, optimise our time working on a particular area. For example, if we plan to build a new asset in an area, which also has ageing assets, we will carefully plan and consider this work at the same time so as to limit the subsequent impact on the local community, maximise use of resources and minimise costs to consumers. Our recent RIIO-T2 business plan has many examples where only our detailed knowledge of the history, performance and condition of assets to a component level has allowed us to profile condition-related interventions to efficiently dovetail with reinforcement works. This has allowed us to defer or avoid some expenditure but also optimises system outages, creating significant consumer savings in constraint costs. An FSO would simply not have the requisite knowledge or experience to make these complex decisions. By making informed decisions to delay some works for greater consumer benefit, we are accountable. An FSO making similar decisions relating to existing TO assets would need to assume complete responsibility for that decision.

Accountability for the design and decision making in any system where detailed network planning roles are carried out by the FSO is a key risk. The network companies are incentivised and penalised against the network performance and reliability of their own assets. For SPEN this includes transmission and distribution assets. To manage the risks of penalty associated with faults and loss of supply, network operators carefully plan the network and conduct feasibility studies on connecting equipment. If the FSO carries out some of these roles, network companies would no longer have full control of the design and operation of their network, and therefore could not be held accountable for network issues and adverse events that are the fault of a third party. Any enhanced network planning role taken over by the FSO needs to carry the associated risks, penalties, liabilities and reputational damage from local stakeholders and customers that the network companies face when delivering these roles. In practice, the proposed scenario would create a complex risk-sharing framework and result in unclear attribution when loss of supply events occur. The need to address this would be absolutely fundamental to ensure the safe operation of the network.

Therefore, the suggestion of giving network planning responsibilities to the ESO would risk significantly impacting TOs' ongoing ability to comply with their obligations to properly coordinate the system and ensure it operates efficiently and economically. If this proposal is progressed, all aspects of the regulatory framework will need to be reviewed to ensure that it is fit for purpose. Examples for review would include the SO-TO Code and incentives such as Energy Not Supplied.

More generally Ofgem and its predecessors have developed a regulatory framework for electricity networks since vesting and privatisation which has evolved over time to ensure that networks deliver a highly reliable, safe secure and stable supply of electricity to GB electricity consumers. Robust evidence and careful consideration is essential before implementing such a fundamental alteration of this framework, as is being proposed. BEIS and Ofgem have not yet properly considered all of the risks of these proposals in their assessments.

Competition – We have yet to see robust analysis demonstrating that the Early Competition model, as proposed by the ESO and Ofgem, provides any consumer benefit. This is reflected in Ofgem’s recent draft Impact Assessment for Early Competition⁵, which fails to include a number of key drivers of cost associated with the model’s implementation. For example, the Early Competition Plan submitted by the ESO to Ofgem suggests that it will take 2.5 to 3 years of NOA assessment stage to select a preferred bidder from the ESO’s own analysis.⁶ This delay has not been factored into Ofgem’s Impact Assessment. At a time when delivering network infrastructure at pace is critical to delivering Net Zero targets, project timelines should not be being extended by such significant lengths without robust demonstration of consumer benefit.

Furthermore, Ofgem’s Early Competition Impact Assessment bases monetary savings on two North American transmission projects that are subject to a different regulatory regime to that in the UK.

Without sufficient evidence that competition models offer consumer benefit, by way of robust cost benefit analysis (CBA) and Impact Assessment, implementation should be considered unacceptable by Ofgem, BEIS and the system operator.

We have engaged on this matter fully with the ESO and Ofgem to date and will continue to participate in any future consultations to ensure that this important matter is given the rigorous examination it requires.

With regards to competition, we are concerned that the customer benefit of running Pathfinder projects has not been robustly demonstrated by the ESO. To give an example, the high-voltage Mersey Reactive Pathfinder 2022-2031 Tender outcome compared a 10-year market solution against the 40-year TO asset. The ESO subsequently opted for the 10-year solution at a cost of £8.81m⁷, compared to the TO’s 40-year asset at a cost of £13.1m⁸. The winner of the competition has subsequently increased the cost of delivery to £9.87m⁹. Therefore, the market-delivered asset will cost consumers £9.87m for a 10-year period, whilst for an additional £3.2m to consumers, the TO asset would have remained operational for a further 30-year period. Given current network needs, we are confident that following the end of the 10-year Pathfinder contract, the asset will most likely still be required on the network, meaning that the market solution will need to be re-negotiated and re-funded by consumers. The claim that such competitions create additional consumer value with their current structure is implausible.

Distribution Coordination – We agree that the FSO and DNOs should work closely together, and that many whole systems benefits can be unlocked through coordination at an FSO-DNO level. As the DSO develops, and network flexibility increases, the scope for distribution solutions to address transmission network constraints increases significantly. To effectively balance the system at lowest cost to consumers, the FSO and DNO/DSO will need to share significantly more data and create new, digitalised operational systems. SPEN has committed to developing its Engineering Net Zero platform to enable the sharing of data and support smarter DSO and FSO functions.¹⁰

⁵ <https://www.ofgem.gov.uk/publications/consultation-our-views-early-competition-onshore-electricity-transmission-networks>

⁶ [Early Competition Plan 2021 \(nationalgrideso.com\)](https://www.nationalgrideso.com/early-competition-plan-2021)

⁷ [https://www.nationalgrideso.com/future-energy/projects/pathfinders/high-voltage/Mersey Mersey Reactive 2022-31](https://www.nationalgrideso.com/future-energy/projects/pathfinders/high-voltage/Mersey%20Reactive%202022-31) Mersey Reactive 2022-31 Final Results Table

⁸ [https://www.nationalgrideso.com/future-energy/projects/pathfinders/high-voltage/Mersey Mersey Reactive 2022-31](https://www.nationalgrideso.com/future-energy/projects/pathfinders/high-voltage/Mersey%20Reactive%202022-31) Mersey Reactive 2022-31 Final Results Table

⁹ <https://www.nationalgrideso.com/document/185236/download>

¹⁰ SPEN RIIO-ED2 Draft Business Plan, July 2021, pg. 39.

https://www.spenergynetworks.co.uk/userfiles/file/SPEN_RIIOED2_DraftBusinessPlan_1JULYWeb.pdf

At a distribution level, the ESO has been asked to reconsider the application of its transmission Early Competition Model to distribution networks, despite the ESO having concluded that: “there is not a role for the ESO in early competition in the distribution sector.” The ESO referenced the potentially significant costs of introducing the ESO into the institutional structures, given its starting position in terms of a low level of knowledge and expertise in distribution, and that there was very little appetite from stakeholders across the board for ESO involvement, with a strong preference for existing distribution parties to be considered the better option.

SPEN is currently finalising our DSO Strategy for inclusion in our final RIIO-ED2 business plan, which we forecast to deliver benefits of up to £334m by delaying or avoiding network reinforcement using non-network solutions.¹¹ These new DSO functions, which each DNO is carefully assessing and engaging with stakeholders on, must be allowed the time to develop. To date, SPEN has already secured 162MW in flexibility capacity through competitive tenders.¹²

As set out in our response to the RIIO-ED2 Sector Specific Methodology consultation of December 2018, and our response to the RIIO-ED2 Sector Specific Methodology consultation in October 2020, if Ofgem intended to extend its competition policy into electricity distribution, then different competition models to those currently proposed for RIIO-T2 would be required, to reflect the different nature of distribution networks, when compared to transmission networks.

Energy Code Development – We consider the option of a separate strategic body/function and code managers is the only viable option for delivering code governance reforms, and we believe this should be the preferred option. We believe the integrated rule making body (IRMB), whether undertaken by the FSO or any other organisation, will be inefficient and lack transparency. Therefore, this option should not be considered going forward.

We believe that it would not be appropriate for the FSO to manage codes, as having the responsibility for meeting its Delivery Plan and the authority to prioritise code modification applications creates a conflict of interest. Modifications to technical codes can be complex and demanding. It is important to avoid a perverse incentive to deprioritise them or truncate checks for unintended consequences.

The consultation assumes that both the strategic function and Code Manager(s), whether performed by the FSO or other organisation, will be able to upskill promptly, secure resources and transfer knowledge to form a competent decision-making framework. Limited consideration is given to the practical risks of starting up new functions, lead times for business transformation and preserving technical knowledge in the process of transferring decision-making capabilities from industry to these central functions.

Dispute resolution – Dispute resolution powers are a key role of the regulator and must remain with Ofgem. The roles in network planning, system balancing and competition being proposed for the FSO mean it cannot be considered an independent arbiter of disputes. Furthermore, the benefits of reducing Ofgem’s role in this area are not clear to us. Ofgem is an expert decision maker with extensive experience of presiding over

¹¹ SPEN RIIO-ED2 Draft Business Plan, July 2021, pg. 52.

https://www.spenergynetworks.co.uk/userfiles/file/SPEN_RIIOED2_DraftBusinessPlan_1JULYWeb.pdf

¹² [SP Energy Networks \(flexiblepower.co.uk\)](https://www.flexiblepower.co.uk)

disputes. It is essential there remains the right to refer decisions of the FSO, acting in any of its other roles, for determination by Ofgem. Ofgem will therefore still need to retain a role in dispute resolution, and it is inefficient to have two different bodies determining different types of dispute.

Additionally, determinations by Ofgem can ultimately be judicially reviewed. If the FSO were to have a role in dispute resolution it is essential that parties would continue to have a right to appeal those decisions.

Heat and Transport decarbonisation – Given the local and regional drivers to the decarbonisation of heat and transport, we do not consider a centralised, strategic body is best placed to help, primarily local authorities, as they look to develop their strategic Transport Plans as well as their Local Area Energy Plans in England and Wales and their Local Heat and Energy Efficiency Strategies in Scotland. DNOs, by using the extensive engineering, network and local knowledge, can support local authorities to design, plan and deliver their decarbonisation plans. Such activity will not only encourage a whole systems approach to local decarbonisation but will also promote a Just Transition by ensuring that no communities are left behind in the Net Zero transition.

As is evident with the increasing responsibility given to local authorities in local decarbonisation, the decarbonisation of heat and transport is best managed at a local and regional level. This is a result of the significant variation in the uptake and challenges of low carbon technologies on a very local basis. A centralised FSO cannot have the level of local detail required to best support stakeholders to decarbonise heat and transport.

The FSO roles in forecasting and high-level system design will be key enablers of heat and transport decarbonisation, but decarbonisation support is best delivered at a local level by DNOs, who have relationships with local stakeholders and a detailed understanding of the impact of low carbon technologies on distribution networks. We do not believe the same benefits and efficiencies would be realised if the FSO carried out this function.

Data – We welcome the strategic leadership Ofgem/BEIS has shown in establishing the Energy Data Taskforce, adopting the recommendations from their report on “A Strategy for a Modern Digitalised Energy System” and introducing new network company licence conditions to comply with Data Best Practice and Digitalisation Strategy and Action Plan guidance.¹³ Establishing this principles based regulation will ensure some degree of consistency across the network companies, but there remains a need for a coordinated approach and therefore we would support a role for a body that coordinates and communicates system views on data and digitalisation, considering input from industry parties and stakeholders to inform policy decisions. This could be undertaken by the FSO, the regulator, or some other dedicated body, provided it has the experience and capability to robustly assess the costs, benefits and wider implications of data and digitalisation proposals.

SPEN aims to ensure data compatibility, effective data sharing and a whole systems approach to digitalisation, but greater industry-wide coordination on data is certainly required and would benefit the industry and the consumer.

¹³ Energy Data Taskforce, A Strategy for a Modern Digitalised Energy System. <https://es.catapult.org.uk/reports/energy-data-taskforce-report/>

We note that the proposed FSO roles in data and digitalisation are currently described at a very high level. Given the importance of data sharing and interoperability in enabling Net Zero, data and digitalisation is an area in which a whole systems approach, involving all relevant parties, is likely to have the best outcomes for consumers. We would like to work with BEIS, Ofgem, and the system operator to support the development of the data proposals outlined in this consultation.

13. What are your views on our proposed characteristics and attributes of a future system operator and how the models presented would deliver against them? Are there other characteristics or attributes that we have not yet considered?

We broadly support the high-level desired characteristics and attributes of the proposed FSO, which would be required for an organisation of this nature. We do, however, have some questions as to how they would work in practice, whilst delivering good value for consumers.

The FSO, in taking on enhanced responsibilities, will have a technical skills gap. For example, the proposed high level and enhanced network planning roles are not currently deliverable by the ESO, so would need to be recruited from within the industry or externally by the FSO. This risks the duplication of efforts, resource and costs for network planning, ultimately costing the consumer more. The TOs have an impressive track record in designing and planning their networks and are strongly incentivised through the RIIO price controls to do this in the most efficient way possible. This is not a skillset that can, or should be, lifted and moved within the industry – it has developed as a result of the TOs' unique role in the industry, and the synergies between delivering system design, network planning, network feasibility studies and commercial solutions simultaneously. Passing some of these roles to the FSO will result in less efficient delivery at higher cost to consumers. Furthermore, the FSO would be competing in a highly competitive resource market that is already severely limited – skilled engineers are difficult to recruit, and significant industry changes could increase already existing resource pressures on network owners.

As regards to being independently minded, we have concerns that the wide remit that the FSO may be granted could cause conflicts of interest in relation to any dispute resolution responsibilities. It would not be unforeseeable that if the system operator were to undertake a greater role in policy development and dispute resolution, it might drive it to make different and potentially inappropriate decisions as a result of its operations in other fields of the system operation. For example, we would have real concerns about the FSO being responsible for suggesting the awarding of a high value procurement as part of any new competition model, whilst also potentially adjudicating on a dispute between the same industry players. We ask that before concluding on the FSO's remit, BEIS and Ofgem collectively consider the multiple ways in which conflicts could arise and how these would be managed. Similarly, the way in which the FSO is incentivised and penalised needs to be given considerable thought and development to ensure the correct independent behaviours are encouraged.

We are supportive of the FSO being responsible for delivering Net Zero for the public and believe that any move to an FSO needs to have Net Zero at its heart. To ensure accountability to consumers, the FSO will need continued ex-post reviews of performance and consumer benefit generated by its decisions. With an increasing role for the FSO in bringing in third party competition models, the FSO must also be held to account for these decisions it takes/contracts/awards on behalf of GB consumers' interests. If the FSO is

found to take decisions which cause significant consumer detriment, then there should be a regulatory mechanism in place to penalise the FSO for the extent of its poor decision making.

We support and would expect effective governance of the FSO, with an impartial and experienced Board driving the FSO forward. Strong leadership will also be required, particularly as delivering on Net Zero ambitions will likely involve tough, complex and costly decisions. However, there is a risk with having one strategic FSO responsible for every part of the system's development, be that heat and transport decarbonisation, competition, energy market design etc, that resources are spread too thinly across these numerous areas or that the FSO's attention is taken away from the fundamental responsibility they have to keep the lights on for GB consumers.

14. Are we considering the right organisation models for the FSO? And why?

We consider the organisational model of the FSO a decision for Government.

It is fundamental that the necessary primary and secondary legislation as well as the associated licence and industry code changes are all in place, before there are any transitions to the FSO. The legislative and regulatory framework must be respected as any changes to the ESO's existing responsibilities are developed and implemented. We would also expect BEIS to continually consult with the whole industry as their proposals firm up.

The consultation suggests that the FSO will have a licence and be regulated by Ofgem whether it is a private or non-private entity. We would expect the FSO to be regulated in the same way as other industry bodies, regardless of what organisation model is chosen. The consultation also suggests that the FSO could operate under multiple system operator licences for operation at different levels of the network or different energy vectors. It is difficult to understand how this would work in practice. Multiple licences could potentially lead to inconsistencies or conflicts in the FSO's roles. We prefer the option of a single licence which clearly sets out how each of the FSO's responsibilities should be prioritised. A single licence covering all roles will also help encourage the FSO to adopt a whole system approach.

As we have explained in our covering letter, it is essential that as the regulatory instruments used to govern the FSO are developed, the decisions that are made are subject to rigorous public consultation beforehand.

We note that no Strategic Policy Statement (SPS) has yet been issued, but that the effect of the designated SPS in due course will vary, to some extent, depending on the organisational model of the FSO, and intended to reflect a similar obligation regardless of the organisation's form. Given that the SPS is to be updated every five years, the legal duties and priorities of the FSO should therefore be very carefully considered to ensure they will still be appropriate in five years' time to facilitate fast-moving Net Zero targets

15. Are we considering the right elements for the FSO's regulatory and accountability frameworks? And why?

It is fundamental that the necessary primary and secondary legislation as well as the associated licence and industry code changes are all in place, before there are any

transitions to the FSO. The legislative and regulatory framework must be respected as any changes to the ESO's existing responsibilities are developed and implemented.

There must be a strong governance framework and clear lines of accountability for the outcomes of the FSO's work and decision-making, with set criteria for measuring success. We consider that the existing ESO Performance Framework will need to be strengthened considerably, given some of the new roles and responsibilities which are being proposed for the FSO. By way of example, if the FSO takes on an enhanced role in network planning and the undertaking of network feasibility studies, as was suggested in Ofgem's recent early competition consultation¹⁴, the FSO will need to be held accountable when network incidents or faults occur, since they will have made decisions that impact the operation, safety and reliability of the network in question. Any enhanced network planning role for the FSO needs to carry the associated risks, penalties and liabilities that the network companies face when delivering these roles. In practice, this would create a complex risk-sharing framework, and result in unclear attribution of root cause when a loss of supply event occurs.

Policymakers must understand that the TOs' roles in network development, system design and network feasibility studies are deliberately designed to be interlinked, and a new FSO cannot be given parts of these roles without causing significant inefficiencies in network planning and requiring changes to the regulatory framework. These proposals are likely to require extensive revision and consultation on the existing regulated and licensed framework, which will be both timely, resource intensive and will weaken the current strength of system operation.

We are fully supportive of the FSO being responsible for delivering Net Zero for the public and believe that any move to an FSO must have Net Zero at its heart, given the key challenge the industry faces. This is a responsibility that we believe should also be reflected in Ofgem's roles and responsibilities, for the same reason. To ensure accountability to consumers, the FSO will need continued ex-post reviews of performance and consumer benefit generated by its decisions. With an increasing role for the FSO in identifying third parties to deliver and operate network assets under any competition model, the FSO must also be held to account for the commercial decisions it takes in either awarding contracts or recommending parties to Ofgem for licence award, on behalf of GB consumers' interests. If the FSO is found to take decisions which cause significant consumer detriment, then there should be a regulatory mechanism in place to penalise the FSO for poor decision making. We expect the FSO to face a strong incentive and penalty regime linked to delivery for consumers, with mechanisms for identifying ex-post consumer benefit of decisions.

The FSO must also be accountable to the devolved administrations, as well as to BEIS and Ofgem. This will ensure the FSO supports Net Zero ambitions and policy objectives across the UK. This isn't clear from the consultation document.

As regards data sharing, we appreciate the need to share information in seeking to develop the network and drive to Net Zero. We strongly believe that enhanced, reciprocal information sharing between networks and the system operator will deliver benefits to consumers and enable optimal whole systems decision making.

We refer to earlier comments in response to question 13 on the importance of independence.

¹⁴ <https://www.ofgem.gov.uk/publications/consultation-our-views-early-competition-onshore-electricity-transmission-networks>

16. Do you have views on the level of shareholding or control involving other 'energy interests' and the FSO at which a conflict of interest would become a concern?

Any new FSO must be created as independent from wider energy interests, protected by a robust governance framework to give industry, the market, and government confidence that it is truly independent. However, significant industry expertise will be required to support and direct the FSO in delivering its roles and responsibilities. It is critical that independence is not misconstrued as working in silo. The FSO should be taking a whole systems approach to system operation, engaging with industry and wider stakeholders to deliver maximum consumer benefit.

17. Are we considering the right implications of our proposals for Elexon and Xoserve?

Elexon and Exoserve provide key services to the industry and, as part of the FSO and energy codes review, it will be essential to consider how the services and roles that they provide continue to get delivered.

Both Elexon and Exoserve need to remain wholly independent of the FSO. The decision on how these organisations are owned, licensed, funded and managed through a regulatory framework is wrapped into the discussions of the Energy Code Reform work. Our view is that both organisations are separate from the FSO and regulated by licence but owned and funded by their respective code signatories.

18. What is your view on the preferred implementation approach? Please explain why.

We support a transitional, phased approach to implementation of the FSO. The current roles of the ESO should be the first to be developed, with any enhanced roles being developed according to prioritisation of need for consumers and Net Zero. It is vital that the way the FSO is implemented has no negative impact on networks and systems, especially regarding health and safety and security of supply.

The FSO proposals should be continually reviewed and must robustly demonstrate that they create consumer value before they are implemented. The consumer benefit of any proposed expansion of the FSO's role should be carefully assessed and consulted on. Given the tight delivery timelines (2030 offshore wind target, 2045/50 Net Zero targets), proposals should be implemented only if they demonstrate that they are consistent with the delivery of these targets.

It is fundamental that the necessary primary and secondary legislation as well as the associated licence and grid code changes are all in place, before there are any transitions to the FSO. The existing legislative and regulatory framework must be respected as any changes to the ESO's existing responsibilities are developed and implemented.

The ESO has many talented and respected individuals working in it. It is very important, for the industry as a whole, that their skills and expertise in the energy sector are respected. People must be put at the heart of this process and be treated properly before, during and after any transitional period to the FSO.

We note that the transition to an FSO is dependent on the sale of the ESO from National Grid.

19. Based on the areas where we are considering new and enhanced roles and functions for the FSO, which of these should be prioritised for development? Please explain why.

Enhanced FSO roles should only be developed where they can robustly demonstrate the consumer value that they will create. In prioritising which roles to implement, it is vital to consider which roles robustly demonstrate customer benefit, and which do not. In this regard, it is essential that any expansion of the FSO's role in the future is properly consulted on to avoid a gradual widening of the FSO's role without the required engagement with industry and stakeholders.

The roles that are currently delivered by the ESO ought to be the first to be developed.

20. What do you believe are the risks to implementation? How can these be mitigated?

The creation of the FSO is a major industry change and carries significant risk as a result. We identify some of these risks below:

The enhanced FSO roles risk duplication of efforts, resources and costs elsewhere in the industry, particularly by the TOs who currently perform the network planning roles that are being proposed as new, enhanced FSO roles.

When created, the FSO will have a steep learning curve and significant skills gaps. The implementation will inevitably lead to disruption and delays to delivery in the industry, and potentially lead to delays to the delivery of Net Zero targets.

The Impact Assessment for the FSO forecasts overall consumer benefit, but this is by no means certain. There is a significant risk that consumers may be less well-off following the implementation of an FSO, given the uncertain costs of implementation and the uncertain benefits it may bring. Further work is required to establish the impacts of the FSO proposals, and we are happy to work with BEIS and Ofgem on understanding the full customer and system impacts of these proposals.

Enhanced FSO roles in network planning and in the undertaking of network feasibility studies, as proposed in Ofgem's recent Early Competition consultation, risks obscuring accountability for the electricity networks. When both the TO and FSO are responsible for the planning of and assets on the network, it becomes difficult to assign accountability when assets fail, or a loss of supply events occurs. It is essential that major changes to the regulatory framework are given serious consideration from all interested stakeholders and are developed fully before implementation. Failure to do so could risk the stability of the energy system which has been carefully built up for many years.

21. Do you have any comments on potential implications of implementation for you, your organisation, or other stakeholders?

As a network operator we are a key stakeholder of the FSO. The points we have raised in this response reflect our views, including the potential implications of the implementation of an FSO on our organisation.

We understand the need for the FSO in the drive to Net Zero, but as we have set out in detail, we also have concerns regarding the proposed enhanced FSO roles, including in relation to enhanced network planning, dispute resolution powers and the execution and delivery of new competition models.

22. What is your view on the position there are likely to be cost savings across the energy system from an increased “whole system” view, as described in paragraphs 47-52 of the IA? If so, is the potential magnitude of savings illustrated fairly in the IA? If not, why not?

We strongly believe in the importance of whole system decision making to deliver value to customers, both within the electricity system and beyond. The increased whole system view described in the Impact Assessment should certainly be a top priority for the system operator, both the current ESO and any FSO.

The FSO Impact Assessment states that: “The improved “whole system” view of the FSO is illustrated as reducing the future costs of the electricity system by between £210 million - £2,500 million across generation, network development and system balancing, though this is highly uncertain.” The key drivers of this broad benefits range are the FSO’s ‘whole system view’, made up of: (1) removal of costs of conflicts of interest, and (2) increased coordination of investment decisions.

The savings in the Impact Assessment are based on the assumptions that the FSO’s ‘whole system view’ will reduce system costs by between 1% to 5%. However, the Impact Assessment contains no evidence to suggest that system costs are currently being driven up by conflicts of interest, nor perceived conflicts of interest. To assign a financial value to the impact of perceived conflicts of interest appears arbitrary. We note that Ofgem’s previous Impact Assessment, conducted by FTI, assumed reduced costs due to conflicts of interest of 10% and observes that ‘[t]his proportion is difficult to determine with certainty’.¹⁵

Many of the issues that we have raised in this response have not been properly reflected in the FSO Impact Assessment. For example, the costs and difficulties in updating the regulatory framework and moving certain network planning functions from the TO to the FSO, in turn removing the benefit of the TO’s expertise and synergies with the other detailed planning functions it carries out.

Given the wide variation in assumptions for the benefits of a ‘whole systems view’ (including removing conflicts of interest), and the absence of key considerations from the Impact Assessment, a more robust and complete Impact Assessment must be undertaken, along with separate more detailed consultations, before changes are made. The FSO proposals will have significant implications on the energy system, some of which will be unintended and unforeseen without a robust Impact Assessment exercise. Further work is required to establish and quantify the impacts of the FSO proposals, and we are happy to work with BEIS and Ofgem on understanding the consumer, system and regulatory impact of these proposals.

23. What is your view on the conclusion that policy intervention is likely to increase the benefits of onshore electricity network competition, as described in paragraphs

¹⁵ GB SYSTEM OPERATOR REVIEW, FTI Consulting, 22 January 2021. Pg. 51. <https://www.ofgem.gov.uk/publications/review-gb-energy-system-operation>

53-59 of the IA? If you agree, is the potential magnitude of savings illustrated fairly in the IA? If not, why not?

We support the use of Impact Assessments as a way to consider whether competition offers consumer value. However, we find it inappropriate for BEIS to base savings on an Impact Assessment that was carried out in 2016. The 2050 Net Zero target and the 2030 40GW offshore wind target were not in place in 2016; both of which have significantly changed the scale and urgency of new transmission infrastructure. This will therefore impact any costs and benefits associated with the introduction of new competition regimes.

Furthermore, we do not believe the estimated cost savings made from an independent SO, in the context of competition, have been correctly estimated. We agree that it is difficult to estimate exactly what cost savings, if any, would transpire. However, we find it inappropriate for the FTI analysis to base savings on projects that are carried out in a different jurisdiction, and therefore subject to a completely different regulatory regime. Also, the FTI report states that the estimation of 25%-50% is *“informed by discussions with Ofgem”*. We do not believe that this is a robust or transparent method on which to base cost savings, and subsequently an Impact Assessment.

We remain unconvinced that the savings within the Impact Assessment described in paragraphs 53-59 are a fair representation of cost savings and believe that further work is required by BEIS to reassess these figures, with consideration of more reliable, transparent and robust evidence.

24. Do you think that the impact assessment has identified and considered the key costs and benefits of policy intervention? If not, can you provide details on other impacts that have not been considered?

Regarding TOs and DNOs, there are many costs and impacts that the Impact Assessment does not sufficiently capture, which this response has highlighted throughout. For example, the FSO proposals, if implemented, will require significant updates to the regulatory framework and require review of almost all aspects of the regulatory regime and many of our operational processes. This will carry significant costs, both directly and indirectly, through the time taken to implement, and has not been captured by the Impact Assessment. Furthermore, again as highlighted throughout the response, we believe that the FSO, as proposed, will require a significant increase in the number of staff, as well as upskilling of existing staff. This will not only have a financial impact in terms of the FSO's implementation, but also effect the wider labour market, given the severe shortage in staff holding this expertise.

We have also highlighted throughout this response the potential for these proposals to result in significant delays to electricity network infrastructure, which will be needed to meet Net Zero targets. We would expect that such delays would represent significant costs that will ultimately be paid for by the consumer. By way of example, analysis completed by the ESO in 2019 showed a one-year delay on the first Eastern Link would cost GB consumers an average of £330m¹⁶ in constraint costs. This demonstrates the criticality in correctly identifying the costs associated with the implementation of the FSO, and the potential scale of consumer detriment if this is not done sufficiently.

¹⁶ <https://www.nationalgrideso.com/document/137321/download>

Further work is required to establish the impacts of the FSO proposals, and we are happy to work with BEIS and Ofgem on understanding the consumer, system and regulatory impact of these proposals.

25. Do you think that the distribution of impacts is fairly represented, with impacted groups correctly identified? Outlined in table 5 of the IA.

As per our response to Q24 (above), we believe there are a number of impacts that have not been correctly identified within the Impact Assessment. Further work is required to establish the impacts of the FSO proposals, and we are happy to work with BEIS and Ofgem on understanding the consumer, system and regulatory impact of these proposals.

26. We invite respondents' views on whether the proposals for energy system governance reform may have a different impact on people who have a protected characteristic (age, disability, gender re-assignment, marriage and civil partnership, pregnancy and maternity, race, religion or belief, sex or sexual orientation), in different ways from people who don't have that characteristic.

No, we do not consider the proposals to have a different impact on people who have a protected characteristic.